

REMARKS

I. Introduction

Claims 55 to 126 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

II. Rejection of Claims 55-67, 69-81, 83-95, 97-108, 110-119 and 121-126 Under 35 USC §102(b)

Claims 55-67, 69-81, 83-95, 97-108, 110-119 and 121-126 were rejected under 35 U.S.C. 102(b) as anticipated by German Patent No. 3435883 ("Heilmann et al."). Applicants respectfully submit that Heilmann et al. do not anticipate the present claims for the following reasons.

Claim 55 relates to an end cap for a filter device. Claim 55 recites that the end cap includes a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap. Claim 55 has been amended herein without prejudice to recite that a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first generally axial direction. Support for this amendment can be found, for instance, in Figures 1 and 8, which illustrate that the portion of the channel adjacent to the interior chamber extends, e.g., in the orientation shown in the figures, downward so as to be generally axial relative to the filter device. Claim 55 has also been amended herein without prejudice to recite that the end cap includes at least one curved member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction. Support for this amendment can be found, for instance, in Figure 12, which illustrates the ribs 14 extending away from an interior surface of the end cap 30 and towards the hollow fiber bundle, e.g., extending in the "first" direction as recited in the claim.

Claim 69 relates to a filter device. Claim 69 recites that the filter device includes a casing for housing a filter element. Claim 69 also recites that the filter device includes an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap. Claim 69 has been amended herein without prejudice to recite that a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first generally axial direction. Support for this amendment is set forth above. Claim 69 has also been amended herein without prejudice to recite that the end cap includes at least one curved member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber

of the end cap, a fluid flow path in a second direction different from the first direction. Support for this amendment can be found, for instance, as set forth above.

Claim 83 relates to an end cap for a filter device. Claim 83 recites that the end cap includes a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap. Claim 83 has been amended herein without prejudice to recite that the end cap includes at least one member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap. Support for this amendment can be found, for instance, as set forth above.

Claim 97 relates to a filter device. Claim 97 recites that the filter device includes a casing for housing a filter element. Claim 97 also recites that the filter device includes an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap. Claim 97 has been amended herein without prejudice to recite that the channel defines a fluid flow path in a first generally axial direction. Support for this amendment can be found, for instance, as set forth above. Claim 97 has also been amended herein without prejudice to recite at least one member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap, the at least one member configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap. Support for this amendment can be found, for instance, as set forth above.

Claim 110 relates to a hemodialyzer device. Claim 110 recites that the hemodialyzer device includes a casing forming a housing, the casing having a blood outlet channel. Claim 110 also recites that the hemodialyzer device includes a hollow fiber bundle stored within the casing. Claim 110 further recites that the hemodialyzer device includes an end cap attachable to the casing, the end cap including a blood inlet channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap. Claim 110 has been amended herein without prejudice to recite that the channel defines a fluid flow path in a first generally axial direction. Support for this amendment can be found, for instance, as set forth above. Claim 110 has also been amended herein without prejudice to recite a plurality of curved members extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap, the at least one member defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction. Support for this amendment can be found, for instance, as set forth above.

Claim 121 relates to a method for filtering a fluid. Claim 121 recites that the method includes the step of passing the fluid through a filter device, the filter device

including a casing for housing a filter element and an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap. Claim 121 has been amended herein without prejudice to recite that a portion of the channel adjacent to the interior chamber defines a fluid flow path in a first generally axial direction. Support for this amendment is set forth above. Claim 121 has also been amended herein without prejudice to recite at least one member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap defining, for a fluid exiting the channel and flowing into the interior chamber of the end cap, a fluid flow path in a second direction different from the first direction. Support for this amendment can be found, for instance, as set forth above.

Claim 124 relates to a method for filtering a fluid. Claim 124 recites that the method includes the step of passing the fluid through a filter device, the filter device including a casing for housing a filter element and an end cap attachable to the casing, the end cap including a channel providing fluid communication from an exterior of the end cap to an interior chamber of the end cap. Claim 124 has been amended herein without prejudice to recite that the filter device includes at least one member defined by an interior surface of, and located within, the interior chamber of the end cap. Support for this amendment can be found, for instance, in Figure 12 which illustrates the interior surface of the end cap. Claim 124 also recites that the at least one member is configured to impart a circular motion to fluid exiting the channel and flowing into the interior chamber of the end cap.

It is respectfully submitted that Heilmann et al. do not anticipate the present claims for at least the reason that Heilmann et al. fail to disclose, or even suggest, all of the claimed features of each claim. For instance, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, at least one curved member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap as recited in claims 55, 69 and 121. Furthermore, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, at least one member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap as recited in claims 83 and 97. Also, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, a plurality of curved members extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap as recited in claim 110. Furthermore, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, at least one member defined by an interior surface of the interior chamber of the end cap as recited in claim 124.

In contrast, Heilmann et al. seems to disclose in Figures 1 to 3 a flat, perforated disk 56 that is interposed between the inlet side 28 of an end cap 30, e.g., having a neck 26, and an outlet side 32 of the end cap 30, e.g., in which a filter element 20 is located. The flat disk 56 has guiding means 50 located on a surface facing the inlet side 28 of the end

cap 30. The Office Action states that “[t]he member (50) is curved, the curve vane (50) extend radially in the first [flow] direction, and it is located within the interior chamber of the end cap.” As shown in Figure 1 and 3, the flat perforated disk 56, and thus the guiding means 50 disposed on the surface of the perforated disk 56, are spaced apart from the interior surface of the interior chamber of the end cap. Therefore, these guiding means 50 do not extend from an interior surface of the end cap as recited in claims 55, 69, 83, 97, 110 and 121, but rather extend from the flat disk 56. Furthermore, these guiding means 50 do not extend in the first generally axial direction, e.g., the direction at which fluid enters, nor do these guide means 50 extend away from an interior surface of the end cap as recited in claims 55, 69, 83, 97, 110 and 121. Rather, these guide means 50 extend from the flat disk 56 toward the interior surface of the end cap in a direction that is opposite to the first generally axial direction recited in the claims. Furthermore, these guiding means 50 are not defined by an interior surface of the interior chamber of the end cap as recited in claim 124, but rather are disposed on the flat disk 56.

To anticipate a claim, each and every element as set forth in the claim must be found in a single prior art reference. Verdegaal Bros. v. Union Oil Co. of Calif., 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987). Furthermore, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989). That is, the prior art must describe the elements arranged as required by the claims. In re Bond, 910 F.2d 831, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990). As more fully set forth above, it is respectfully submitted that Heilmann et al. do not disclose, or even suggest, all of the features recited in claims 55, 69, 83, 97, 121 and 124.

In summary, it is respectfully submitted that Heilmann et al. do not anticipate claims 55, 69, 83, 97, 121 and 124.

As for claims 56 to 64, 66 and 67, which ultimately depend from and include all of the limitations of claim 55, claims 70 to 78, 80 and 81, which ultimately depend from and include all of the limitations of claim 69, claims 84 to 92, 94 and 95, which ultimately depend from and include all of the limitations of claim 83, claims 98 to 105, 107 and 108, which ultimately depend from and include all of the limitations of claim 97, claims 111 to 117 and 119, which ultimately depend from and include all of the limitations of claim 110, claims 122 and 123, which ultimately depend from and include all of the limitations of claim 121, and claims 125 and 126, which ultimately depend from and include all of the limitations of claim 124, it is respectfully submitted that Heilmann et al. do not anticipate these dependent claims for at least the same reasons given above in support of the patentability of claims 55, 69, 83, 97, 110, 121 and 124.

III. Rejection of Claims 65, 79, 93, 106 and 118 Under 35 U.S.C. § 103(a)

Claims 65, 79, 93, 106 and 118 were rejected under 35 U.S.C. § 103(a) as unpatentable over Heilmann et al. in view of U.S. Patent No. 5,304,312 ("Forster et al."). Applicants respectfully submit that the combination of Heilmann et al. and Forster et al. do not render obvious the present claims for the following reasons.

It is respectfully submitted that the combination of Heilmann et al. and Forster et al. does not disclose, or even suggest, all of the limitations recited in claims 65 and 79. For instance, claims 65 and 79 depend from claims 55 and 69, respectively, and therefore include all of the limitations of these claims. As stated above, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, at least one curved member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap as recited in claims 55 and 69. Forster et al. are not relied upon to disclose or suggest, and in fact does not disclose or suggest, the limitations of claims 55 and 69 that are not disclosed or suggested by Heilmann et al. For instance, Forster et al. describe ribs or fins 88, and ribs or fins 288, that are not curved.

Furthermore, it is respectfully submitted that the combination of Heilmann et al. and Forster et al. does not disclose, or even suggest, all of the limitations recited in claims 93 and 106. For instance, claims 93 and 106 depend from claims 83 and 97, respectively, and therefore include all of the limitations of these claims. As stated above, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, at least one member extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap as recited in claims 83 and 97. Forster et al. is not relied upon to disclose or suggest, and in fact does not disclose or suggest, the limitations of claims that are not disclosed or suggested by Heilmann et al.

Also, it is respectfully submitted that the combination of Heilmann et al. and Forster et al. does not disclose, or even suggest, all of the limitations recited in claim 118. For instance, claim 118 depends from claim 110 and therefore includes all of the limitations of this claim. As stated above, it is respectfully submitted that Heilmann et al. fail to disclose, or even suggest, a plurality of curved members extending in the first direction away from an interior surface of the end cap and located within the interior chamber of the end cap as recited in claim 110. Forster et al. is not relied upon to disclose or suggest, and in fact does not disclose or suggest, the limitations of claim 110 that are not disclosed or suggested by Heilmann et al.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988).

This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

Thus, for claims 65, 79, 93, 106 and 118, which depend from and therefore include all of the limitations of claims 55, 69, 83, 97 and 110, respectively, it is respectfully submitted that the combination of Heilmann et al. and Forster et al. does not render obvious these dependent claims for at least the same reasons given above in support of the patentability of claims 55, 69, 83, 97 and 110, respectively. In re Fine, supra (any claim that depends from a non-obvious independent claim is non-obvious).

IV. Allowable Subject Matter

Applicants note with appreciation the indication of allowable subject matter contained in claims 68, 82, 96, 109 and 120.

V. Conclusion

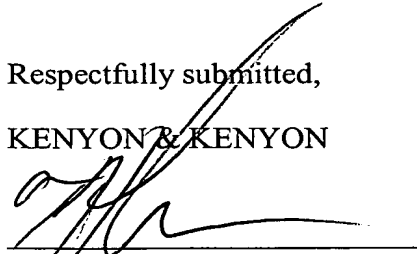
It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Dated: July 5, 2005

Respectfully submitted,

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